



EUROPEAN FOREST
INSTITUTE

FutureForest 2040 scenarios: Changes in the policy field

FutureForest2040 seminar

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Janni Kunttu

EFI & ETLA



METSÄMIESTEN
SÄÄTIÖ



From here to 2040

- Workshop in Helsinki, 2019
 - Application of Futures Wheel
- Output:
 - Scenario narratives
 - Numerical illustrations of the Finnish wood-based product portfolio (utilized for further analysis)
 - Three different, explorative scenarios

Shared narratives in the scenarios



Political features	Economy	Social features	Technological features	Natural resources and environment
China holds dominant position	China holds dominant position (economically)	Aging population	Digitalization	Shortage of water, drought, rising sea level
Inequal resource distribution between countries	The external side effects of overconsumption are better understood	Decreased living space-> centralized living	Carbon capture technologies	Destructive weather phenomena, Other natural catastrophes
Increasing migration (difficult conditions)	Decrease of agricultural activity globally	Inequality (income level) (differences in scenario reactions)	R&D efforts on non-fossil energy forms	The value of natural resources is emphasized
The threat of global conflicts has increased significantly	Digitalization changes the markets			

Scenarios

Biodiversity &
regulated
economy

Circular Economy: A
way to sustain
abundant lifestyle?

Era of Social Connection



Biodiversity & Regulated Economy





Biodiversity & Regulated Economy : European policy environment

Water agreement

Biodiversity

Restrictions for critical
raw material (applied
here to forests as well)

- Forest harvest restrictions as directives, pinned to biodiversity

Material use over
energy use
(also in recycling)

Nuclear power

Requirement to use
best available
technologies in all
production

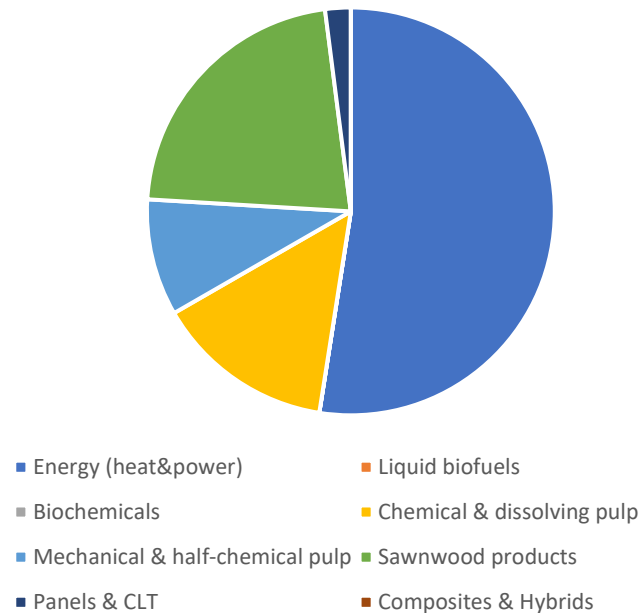
Biodiversity & Regulated Economy : European Forest policies

- Incentives for bio-based production
- If as a production subsidy, tied to volumes
- The structure of wood-based production is changed through regulation
- Wood-based production is not automatically carbon neutral
- The production of wood-based energy is not limited per se, but the use is restrained through pricing
- Socially and politically accepted wood products: Wood-based construction solutions and hygiene products
- The forest industry must convince the consumers
- R&D support for global value chains and their carbon footprints
- R&D support for bio-based production
- R&D support for biotopes

Biodiversity & Regulated Economy

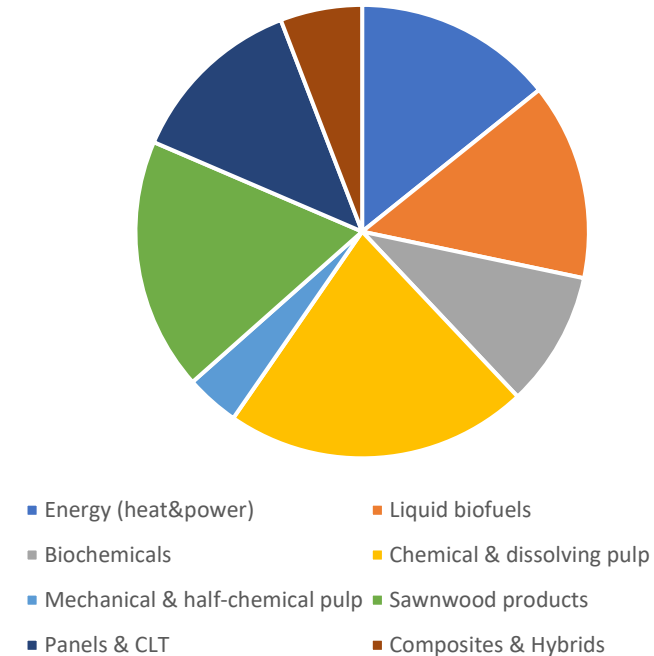
Today's wood-based product portfolio in Finland

Nyky päivä (puuvirtojen jakautuminen ml. sivuvirrat ja jätepuu)



Biodiversity & Regulated Economy

Biodiversity & Planned economy, workshop scenario





**Circular Economy:
A way to sustain
abundant
lifestyle?**



Metsämeston säätiö ry 16.5.2022



Circular Economy: A way to sustain abundant lifestyle?: European policy environment

The consumption is still growing:
Sanctions for over-utilization of natural resources

- Emission quotas + carbon-neutral production
- Carbon tariffs & Carbon trade

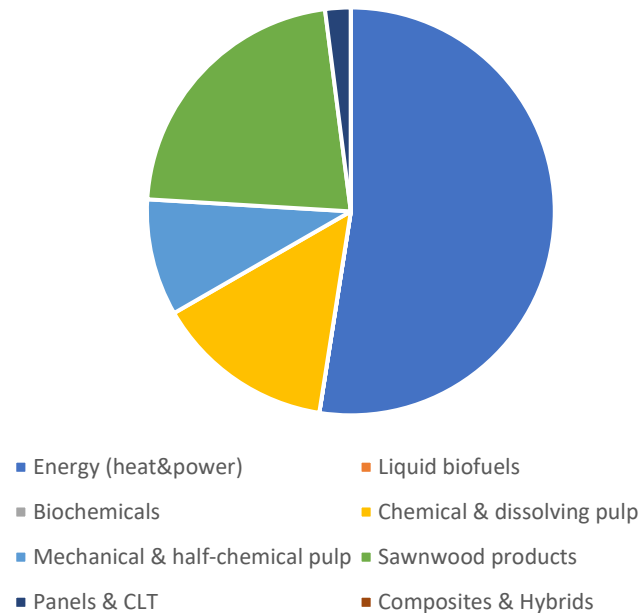
Fossil fuel use restrictions ✎

- Strong support for renewable material –based production (especially secondary raw materials such as side streams and waste)
- It is allowed and supported to use wood-based side streams and waste wood for both, material production and energy
- R&D support for recycling technologies and value chain optimization
- R&D support for biochemistry and enzyme use: Biomedicines and chemical recycling
- R&D support for energy: Hydrogen energy, micro grids

Circular Economy: A way to sustain abundant lifestyle?

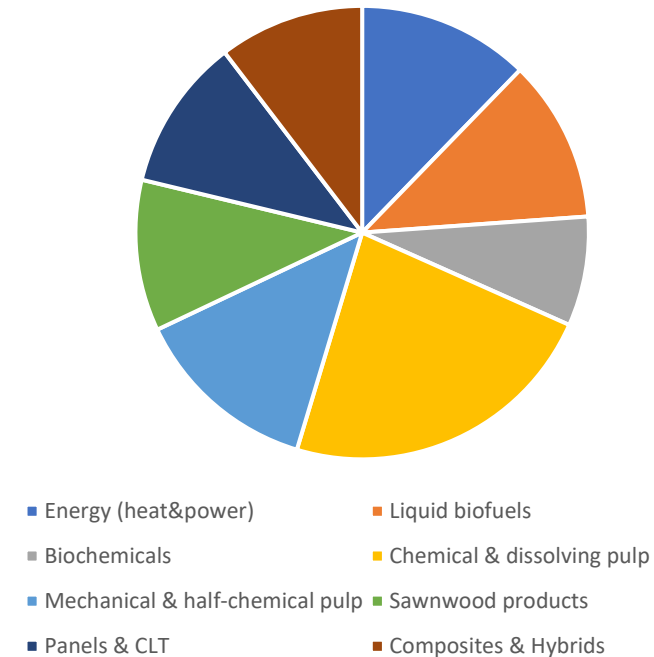
Current Finnish wood-based product portfolio

Nykyvä (puuvirtojen jakautuminen ml. sivuvirrat ja jätepuu)



Circular Economy: A way to sustain abundant lifestyle?

Circular economy





Era of Social Connection



Metsämiesten säätiö ry 16.5.2022



Era of Social Connection :European policy environment

- Pricing of consumption through taxation
- Over consumption limit exceeded -> consumers pay
- Over production limit exceeded -> producer pays
- On the other hand, free trade is promoted on a global level
- No carbon tariffs, but financial support for carbon capture systems
- Investments in social welfare
- R&D support for clean energy forms
- R&D support for waste recovery and reuse, product repairing, and extending the product lifetime.
- R&D support for 'intelligent materials' in buildings
- R&D support for Biodiversity

Era of Social Connection: Forests as part of the built environment

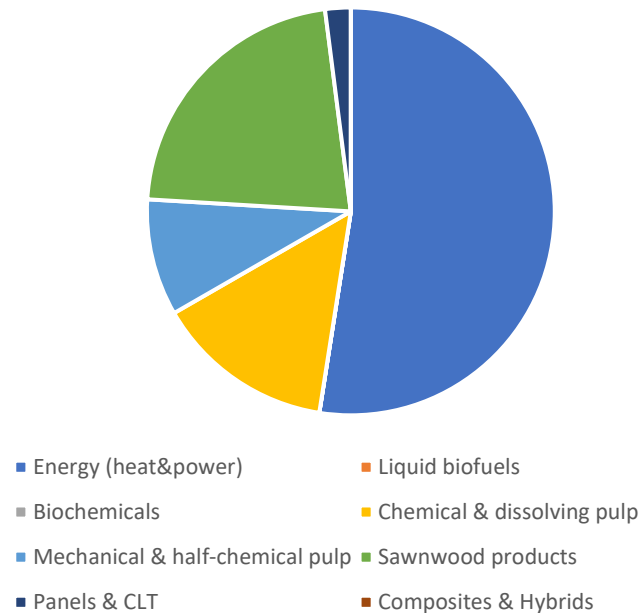
- Requirement of ecology for residential areas
- 80% of the surface must be blue or green infra
- Support for "smart built environments" and digitization
- 100% of household energy must be renewable



Era of Social Connection

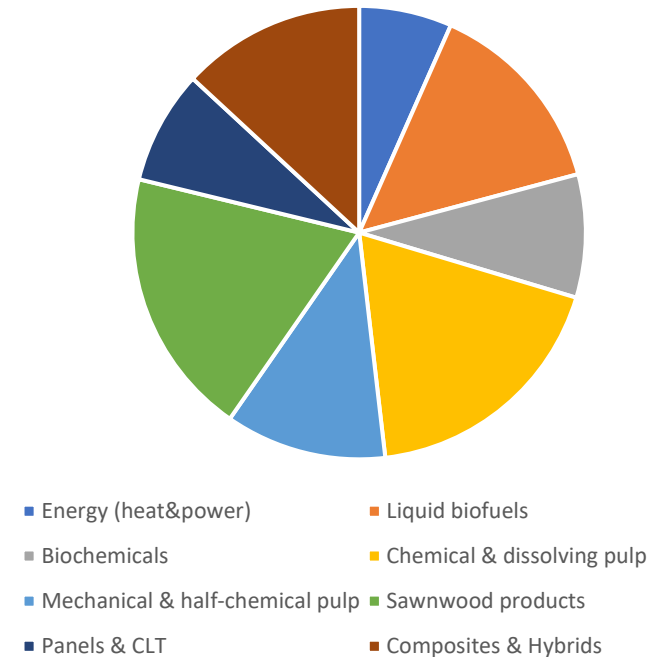
Today's wood-based product portfolio in Finland

Nykyvä (puuvirtojen jakautuminen ml. sivuvirrat ja jätepuu)



Era of Social Connection

Era of social connection





Biodiversity & Regulated Economy

- The European policies were highly focused on GHG emission reduction
- New biodiversity-based restrictions (EU directives) on forest utilization, incl. harvesting
- Wood utilization was not considered automatically carbon neutral, and only some products, such as wood-based construction and hygiene products, were accepted by the policies and the public
- Restrictions for wood-based energy->
 - Difficult to replace industrial mill energy with energy sources other than wood
 - A risk for Finland's energy self-sufficiency

Circular Economy: A Way to Sustain Abundant Life-Style?

- The circular economy efforts were overall the highest
 - Strict waste legislation and an obligation percentage for recycling
 - A share of GDP would be used to enhance circular economy development and value chain optimization
 - The technology development and required logistical value chains around recycling require high investments, which may, at least for some time, hinder the cost competitiveness in Europe
- Carbon neutrality was a set demand for all production, and the over-consumption of virgin resources would lead to sanctions
- Emission reductions achieved elsewhere allowed to count toward the national commitment
- Carbon credits and trading
- Requires emission reduction verification system



Era of Social Connection

- Free trade was assumed to be promoted to prevent conflicts between countries
- Market guidance based on incentives on, e.g., smart buildings and green and blue constructed environments
- Decrease in consumption through taxation, where the producer pays for excess production, and the consumer pays for the external impacts of over-consumption
 - Progressive taxation system for VAT?
- A complete landfilling ban
- ‘know-how’ should be upscaled outside Europe to efficiently decrease emissions